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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/022,732	12/20/2001	Kiyoshi Aiki	HITA.0141	5606

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EXAMINER

DINH, TUAN T

ART UNIT PAPER NUMBER

2841

DATE MAILED: 07/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/022,732

Applicant(s)

AIKI ET AL.

Examiner

Tuan T. Dinh

Art Unit

2841

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 6-20 and 23-28 is/are pending in the application.
- 4a) Of the above claim(s) 6-20 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 27 is/are allowed.
- 6) ☒ Claim(s) 23-26 is/are rejected.
- 7) ☒ Claim(s) 28 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

**Claims 1-5, and 21-22 have been canceled, and claims 6-7, 13-14 are**  
**dependently on claim 1, so that examiner assumes claims 6-7, and 13-14 would be**  
**canceled because they are dependent on claim 1.**

Claims 8-11, and 15-20 are withdrawn from previous Office action. And, claims 23-28 are submitted as new claims.

### **Claim Rejections - 35 USC § 103**

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farnworth et al. ('899) in view of Komoriya (U.S. Patent 6,356,095).

As to claims 23-26, Farnworth et al. disclose a semiconductor integrated circuit device (a wafer (10), see figure 1, comprising: a plurality of bonding pads (first through forth pads) (18; column 2, lines 37-40) arranged along one of four sides (the pads are located on the right side of a die 12) of a semiconductor chip (12, column 2, line 32) embedded in the semiconductor integrated circuit device (10); a first inspection pad (test pad 20-figure 2, column 2, line 44); and a first connection wire (column 2, lines 47-

48), which is laid outside an area of the chip (12) for each of said bonding pads, for connecting said each bonding pad (18) with the inspection pad (20), see figure 2.

Farnworth does not specific disclose first to second inputs/outputs buffers coupled to the pads and the first inspection pad only connected to one bonding pad on the second side of the semiconductor chip such that the second bonding pad on the second side and the first bonding pad on the first side are set to be tested concurrently through respectively probing the first/second inspection pad and the third bonding pad on the third side.

Komoriya teaches a semiconductor IC as shown in figures 1-10 comprising input/output buffers connected to pads, see column 4, line 41 through column 6, line 23, and the first inspection pad only connected to one bonding pad on the second side of the semiconductor chip such that the second bonding pad on the second side and the first bonding pad on the first side are set to be tested concurrently through respectively probing the first/second inspection pad and the first bonding pad on the first side.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a teaching of Komoriya applying in the device of Farnworth in order to provide input/out state logic levels, test, and minimize current flow during operation of the die.

***Allowable Subject Matter***

3. Claim 28 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
4. Claim 27 is allowed.

The following is an examiner's statement of reasons for allowance: the prior art fails to disclose or render obvious in combination of the device having a plurality of other second bonding pads arranged on the second side of the semiconductor chip; a plurality of other first inspection pads arranged on the first side of the semiconductor chip, each of the plurality of the inspection pads connected to the corresponding second bonding pads, wherein each of the plurality of the first connection wires has an identical length..

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Response to Arguments***

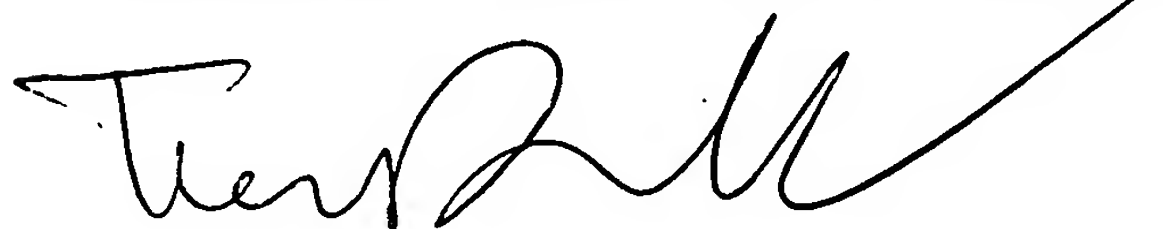
5. Applicant's arguments with respect to claims 1-5, and 21-22 have been considered but are moot in view of the new ground(s) of rejection.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T Dinh whose telephone number is 571-272-1929. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kammie Cuneo can be reached on 571-272-1957. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Tuan Dinh', with a long, sweeping horizontal stroke extending to the right.

Tuan Dinh  
July 05, 2006.